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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,465	01/18/2005	Tadayoshi Iijima	264507US0PCT	2229

22850 7590 06/18/2008

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EXAMINER	
DESAI, ANISH P	

ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
06/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/521,465	IIJIMA ET AL.	
	Examiner	Art Unit	
	ANISH DESAI	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9 and 11-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9 and 11-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments in response to the Office action dated 09/04/07 have been fully considered, and they are found persuasive.

2. The 35 USC Section 103(a) rejection made by the pervious Examiner based on JP'306 in view of JP'791 is withdrawn, because none of the aforementioned references disclose "the high refractive index layer is impregnated with a portion of the adhesive". However, upon further consideration, a new 35 USC Section 103(a) rejection based on Kawabata (JP 2000-338306 Machine translation previously provided) in view of Saotome (abstract of JP 57-174367) is made.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 19 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 19 and 22 recite "the crosslinkable functional groups", there is insufficient antecedent basis for this limitation in the claims. For the purpose of the examination, since claims 19 and 22 depend from claims 18 and 21, if prior art discloses or renders claims 18 and 21 obvious; then claims 19 and 22 are considered to be met as well.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3-5, 8, 9, 11-13, 16, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (JP 2000-338306 Machine translation previously provided) in view of Saotome (abstract of JP 57-174367).

6. Regarding claims 1 and 9, Kawabata discloses an antireflection film for transfer comprising a support, an antireflection layer disposed on the support, and an adhesive layer on the antireflection layer, wherein the antireflection layer comprises a high refractive layer comprising metal oxide fine particles and the support is releasable from the antireflection layer (see abstract, 0001-0015, and Applicant's own submission regarding JP 2000-338306 found at paragraph 0006 of the Patent Application Publication of the presently claimed invention). Moreover, regarding claim 9, Kawabata discloses a low refractive index layer disposed on the support and a high refractive index layer disposed on the low refractive index layer (abstract and Applicant's own submission regarding JP 2000-338306 found at paragraph 0006 of the Patent Application Publication of the presently claimed invention).

7. With respect to claims 1 and 9, the difference between the claimed invention and the prior art of Kawabata is that Kawabata is silent as to teaching the adhesive containing a curable component and a cellulose resin including an ester bond, and the

high index refractive index layer is impregnated with a portion of the adhesive. However, Saotome discloses a hot melt adhesive composition obtained by radical polymerization of methacrylic ester and cellulose acetate butyrate or cellulose acetate propionate (abstract). Moreover, Saotome discloses that other comonomers are vinyl acetate, styrene, acrylonitrile, acrylic acid...hydroxyethyle acrylate, and diglycidyl (meth)acrylate (see abstract) which read on a curable component.

According to Saotome, the adhesive composition shows improved heat resistance and adhesive strength. It is noted that the adhesive of primary reference of Kawabata is based on acrylic adhesive (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the adhesive of Saotome in the antireflection film of Kawabata, motivated by the desire to form an antireflection film having improved adhesive strength. With respect to the claimed feature "the high index refractive index layer is impregnated with a portion of the adhesive", it is reasonable to presume that said feature is present in the invention of Kawabata as modified by Saotome. The support for said presumption is based on the fact that the antireflection films of Applicant, and that of Kawabata as modified by Saotome comprise "a support, an antireflection layer disposed directly on the support, and an adhesive layer on the antireflection layer…the antireflection layer comprise a high…comprising metal oxide fine particles", and "an adhesive layer which constitutes…ester bond", and the support is releasable from the antireflection layer. Thus, the antireflection films of Applicant and that of Kawabata as modified by Saotome are structurally and compositionally equivalent. Thus, the aforementioned claimed

feature would be present in the invention of Kawabata as modified by Saotome. The burden is shifted to Applicant to prove it otherwise (see *In re Fitzgerald*, 205 USPQ 594).

8. Regarding claims 3, 4, 11, 12, 23, and 24, as set forth previously, Saotome discloses a hot melt adhesive composition obtained by radical polymerization of methacrylic ester and cellulose acetate butyrate or cellulose acetate propionate (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the adhesive of Saotome in the antireflection film of Kawabata, motivated by the desire to form an antireflection film having improved adhesive strength.

9. With respect to claims 5 and 13, it is noted that the secondary reference of Saotome discloses that cellulose resin of his invention is used in the amount of less than 50% (abstract). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the adhesive of Saotome in the antireflection film of Kawabata, motivated by the desire to form an antireflection film having improved adhesive strength. Alternatively, selection the weight% of cellulose resin would have been obvious, motivated by the desire to form an adhesive layer containing cellulose resin.

10. With respect to claims 8 and 16, these limitations are either inherently disclosed or obvious based on the disclosure of Kawabata provided in abstract for example citing "To obtain a transfer material having excellent charge controlling…to produce the front

plate of a display in a transfer process [antireflection-treated article]…adhesive layer thereon." and at paragraph 0001-0002.

11. Claims 6, 7, 14, 15, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (JP 2000-338306 Machine translation previously provided) in view of Saotome (abstract of JP 57-174367) as applied to claims 1 and 9 above, and further in view of Yoshihara et al. (US 6,376,060 B1).

12. Kawabata is silent as to teaching claims 6, 7, 14, 15, 17, and 20. However, Yoshihara discloses a hardcoat film and an antireflection film comprising an antireflection layer provided on the hardcoat. Additionally, Yoshihara discloses inorganic filler such as metal oxide particles having functional group that is introduced into at least a part of the inorganic filler (see column 8 lines 37-39 and Example B1). Further Yoshihara discloses "Specific examples of preferred organic components having a polymerizable functional group…include polyfunctional acrylates…group." (column 9 lines 5-15). This disclosure of Yoshihira together with disclosure at column 8 lines 37-39 and Example B1, is interpreted to read on a crosslikable functional group upon irradiation with UV rays and the crosslinkable functional group is an unsaturated double bond as claimed. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use metal oxide particles with functional groups as taught by Yoshihara in the invention of Kawabata, motivated by the desire to form high refractive index layer having excellent scratch resistance and crack preventive properties.

13. Claims 18, 19, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (JP 2000-338306 Machine translation previously provided) in view of Saotome (abstract of JP 57-174367) as applied to claims 1 and 9 above, and further in view of Furman et al. (US 2002/0013382A1).

14. Kawabata is silent as to teaching claims 18, 19, 21, and 22. However, Furman discloses methods of functionalizing and functionalized metal oxide particles, and mechanically strong and transparent or translucent composites made with such particles. Further, according to Furman "The composites primarily are suitable for dental and medical restoration; however, optical resins for use in high refractive index application...and adhesive applications also are possible." (0002). The metal oxide particles of Furman are functionalized (surface-treated) by silane adhesion promoters (0012) such as ethoxy vinyl silane (0045). As metal oxide particles Furman discloses that any metal capable of forming an amphoteric metal oxide may be used to form the metal oxide particles (0013). According to Furman "However, the hydroxyl groups that tend to form at the surface of metal oxide particles in "protic" environments tend to make the surface of the particles hydrophilic. As a result, the metal oxide particles have difficulty being wetted or adhered to by relatively hydrophobic matrix monomers such as acrylic monomers, which are non-polar or weakly polar in nature." (0005). It is noted that the high refractive index layer of primary reference of Kawabata consists of metal oxide particles in acrylic resin (see abstract of Kawabata beginning at "a metal oxide-cong. [containing] layer is formed of the transfer material essentially consists of an acrylic resin and conductive metal oxide fine particles such as ITO...high refractive

index"). Therefore, it would have been obvious to add the functionalized metal oxide particles of Furman, in the high-refractive index layer of Kawabata, because such functionalized metal oxide particles can be easily wetted or adhered by acrylic resin of the high refractive index layer of Kawabata such that a mechanically strong layer can be formed.

Double Patenting

15. Claims 1, 3-9 and 11-24 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 7,244,494B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-15 of the aforementioned US Patent encompass same subject matter as that of disclosed by claims 1, 3-9, and 11-24.

Response to Arguments

16. Applicant's arguments received on 02/21/08 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Iijima (US 2002/0086138A1), Tamai et al. (US 2002/0037399A1), Ota et al. (US 5,925,438), and Nishida et al. (US 6,899,957B2).

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./
Examiner, Art Unit 1794

/Hai Vo/
Primary Examiner, Art Unit 1794